

Notice of Allowability

Application No.

09/998,186

Examiner

TUAN A. PHAM

Applicant(s)

KIM, HYUN KYUN

Art Unit

2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed on 12/19/2006.
2. ☒ The allowed claim(s) is/are 1-7,9,10,14 and 17-20.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

2. Authorization for this examiner's amendment was given in a telephone interview with Attorney of record David C. Oren on 01/22/2007.

3. The application has been amended as follows:

Claim 1 has been changed as follows:

-- 1. A mobile communication terminal, comprising:

a speaker;

a microphone;

a CODEC adapted to convert a digital speech signal into an analog speech signal;

an equalizer adapted to adjust a timbre of the converted analog speech signal inputted thereto from the CODEC, the equalizer to receive analog speech signals from the microphone and the equalizer to provide the converted analog speech signals to the speaker;

an equalizer control circuit adapted to supply a timbre control signal; and

a CPU adapted to supply a first control signal corresponding to a frequency band set by a user to the equalizer control circuit, the equalizer control circuit to supply the timbre control signal based on the first control signal, the CPU further adapted to provide a second control signal to the CODEC, and the CPU to supply a digital speech signal received from another mobile communication terminal to the CODEC, the mobile terminal comprising a mobile telephone. --

Claim 5 has been changed as follows:

-- 5. A mobile communication terminal, comprising:

a microphone adapted to input a transmitting speech signal;

a speaker adapted to reproduce a received speech signal;

a CODEC adapted to perform an analog-digital conversion for the transmitting speech signal and a digital-analog conversion for the received speech signal;

a CPU adapted to generate a first control signal according to a frequency band set by a user and to provide a second control signal to the CODEC;

an equalizer control circuit adapted to generate a timbre control signal according to the first control signal of the CPU; and

an equalizer adapted to adjust a frequency band of the transmitting/received speech signals according to the timbre control signal inputted thereto from the equalizer control circuit, the equalizer being connected to the microphone, the speaker and the CODEC in such a fashion that the equalizer is disposed between the microphone/speaker and the CODEC, the mobile communication terminal comprising a mobile telephone. --

Claim 7 has been changed as follows:

-- 7. A mobile terminal comprising:

- a microphone to receive speech signals;
- a speaker to provide audio signals;
- an antenna to receive/transmit signals;
- an input device to allow a user to set a frequency band of the mobile terminal;
- a converting device to convert a digital signal into an analog signal, the digital signal being based on a signal received from the antenna;
- an equalizing device coupled to the converting device to adjust the analog signal and to provide the adjusted analog signal to the speaker;
- an equalizer control circuit adapted to supply a timbre control signal; and
- a processor adapted to supply a first control signal corresponding to a frequency band set by a user to the equalizer control circuit, the equalizer control circuit to supply the timbre control signal based on the first control signal, the processor further adapted to provide a second control signal to the converting device, and the processor to supply a digital speech signal received from another mobile communication terminal to the converting device, the mobile terminal comprising a mobile telephone. --

Claims 11-13 are canceled.

(End of Amendment)

REASONS FOR ALLOWANCE

4. Claims 1-7, 9-10, 14, and 17-20 are allowed over the prior art of record.

5. The following is an examiner's statement of reasons for allowance:

The applicant's Remarks, filed on 12/19/2006, have been carefully reviewed with update search. Consequently, reasons for allowance of claims 1-7, 9-10, 14, and 17-20 are set forth in the following:

Regarding claim 1, the prior art made of record fails to clearly teach or fairly suggest the feature of a mobile telephone comprises a speaker; a microphone; a CODEC; an equalizer; an equalizer control circuit, and a CPU adapted to supply a first control signal corresponding to a frequency band set by a user to the equalizer control circuit, the equalizer control circuit to supply the timbre control signal based on the first control signal, the CPU further adapted to provide a second control signal to the CODEC, and the CPU to supply a digital speech signal received from another mobile communication terminal to the CODEC, in combination with other limitations, as specified in the independent claim 1, and further limitations of their respective dependent claims 2-4, and 19.

Regarding claim 5, the prior art made of record fails to clearly teach or fairly suggest the feature of a mobile telephone comprises a speaker; a microphone; a CODEC; an equalizer; an equalizer control circuit, and a CPU adapted to generate a first control signal according to a frequency band set by a user and to provide a second control signal to the CODEC; an equalizer control circuit adapted to generate a timbre control signal according to the first control signal of the CPU; and an equalizer adapted

to adjust a frequency band of the transmitting/received speech signals according to the timbre control signal inputted thereto from the equalizer control circuit, the equalizer being connected to the microphone, the speaker and the CODEC in such a fashion that the equalizer is disposed between the microphone/speaker and the CODEC, in combination with other limitations, as specified in the independent claim 5, and further limitations of their respective dependent claims 6, and 20.

Regarding claim 7, the prior art made of record fails to clearly teach or fairly suggest the feature of a mobile telephone comprises a speaker; a microphone; a CODEC; an equalizer; an equalizer control circuit; and a processor adapted to supply a first control signal corresponding to a frequency band set by a user to the equalizer control circuit, the equalizer control circuit to supply the timbre control signal based on the first control signal, the processor further adapted to provide a second control signal to the converting device, and the processor to supply a digital speech signal received from another mobile communication terminal to the converting device, in combination with other limitations, as specified in the independent claim 7, and further limitations of their respective dependent claims 9-10, 14, and 17-18.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

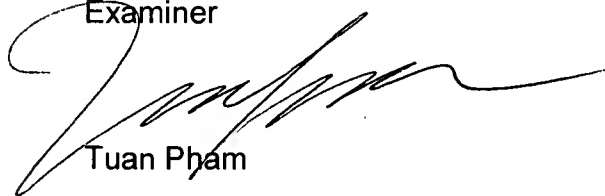
Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan A. Pham whose telephone number is (571) 272-8097. The examiner can normally be reached on Monday through Friday, 8:30 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Anderson can be reached on (571) 272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have question on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit 2618
January 23, 2007
Examiner



Tuan Pham

Supervisory Patent Examiner
Technology Center 2600



Matthew Anderson